

1653

RECEIVED

DEC 20 2002



TECH CENTER 1600/2900

P#17 1600

## RAW SEQUENCE LISTING

DATE: 12/13/2002

PATENT APPLICATION: US/09/673,274B

TIME: 14:37:45

Input Set : A:\#416412 v1 - A33595-PCT-USA Revised Sequence Listing.txt

Output Set: N:\CRF4\12132002\I673274B.raw

4 <110> APPLICANT: Lamberty, Mireille  
 5 Bulet, Phillipe  
 6 Brookhart, Gary  
 7 Hoffman, Jules  
 9 <120> TITLE OF INVENTION: GENE CODING FOR HELIOMICINE, AND USE THEREOF  
 11 <130> FILE REFERENCE: A33595-PCT-USA (0726667.0166)  
 13 <140> CURRENT APPLICATION NUMBER: 09/673,274B  
 14 <141> CURRENT FILING DATE: 1999-04-12  
 16 <150> PRIOR APPLICATION NUMBER: PCT/FR99/00843  
 17 <151> PRIOR FILING DATE: 1999-04-12  
 19 <150> PRIOR APPLICATION NUMBER: FR 98 04933  
 20 <151> PRIOR FILING DATE: 1998-04-15  
 22 <160> NUMBER OF SEQ ID NOS: 48  
 24 <170> SOFTWARE: FastSEQ for Windows Version 4.0  
 26 <210> SEQ ID NO: 1  
 27 <211> LENGTH: 147  
 28 <212> TYPE: DNA  
 29 <213> ORGANISM: Artificial Sequence  
 31 <220> FEATURE:  
 32 <223> OTHER INFORMATION: Synthetic oligonucleotide  
 34 <400> SEQUENCE: 1  
 35 agcttggtata aaagagacaa gttgattggc agctgtgttt ggggcgccgt caactacact 60  
 36 agtgactgca acggcgagtg caagcgccgc ggttacaagg gtggccattg tggatccttc 120  
 37 gctaacgtta actgttggtg tgaaacc 147  
 39 <210> SEQ ID NO: 2  
 40 <211> LENGTH: 169  
 41 <212> TYPE: DNA  
 42 <213> ORGANISM: Artificial Sequence  
 44 <220> FEATURE:  
 45 <223> OTHER INFORMATION: Synthetic oligonucleotide  
 47 <400> SEQUENCE: 2  
 48 gataagctta tcggttcctg cgtgtggggt gctgtgaact acacttccga ttgcaacggt 60  
 49 gagtgcaaga ggaggggtta caaggggtgt cactgcggtt ccttcgctaa cgtgaactgc 120  
 50 tgggtgcgaga cttgagagct cggcgaggcg aacgtgtcga cggatccgg 169  
 52 <210> SEQ ID NO: 3  
 53 <211> LENGTH: 261  
 54 <212> TYPE: DNA  
 55 <213> ORGANISM: Artificial Sequence  
 57 <220> FEATURE:  
 58 <223> OTHER INFORMATION: Synthetic oligonucleotide  
 60 <400> SEQUENCE: 3  
 61 ccatgggttt cgtgcttttc tctcagcttc catctttcct tcttgtgtct actcttcttc 60  
 62 ttttccttgt gatctctcac tcttgccgtg ccgataagct tatcggttcc tgcgtgtggg 120

ENTERED

## RAW SEQUENCE LISTING

DATE: 12/13/2002

PATENT APPLICATION: US/09/673,274B

TIME: 14:37:45

Input Set : A:\#416412 v1 - A33595-PCT-USA Revised Sequence Listing.txt

Output Set: N:\CRF4\12132002\I673274B.raw

```

63 gtgctgtgaa ctacacttcc gattgcaacg gtgagtgcaa gaggaggggt tacaaggggt 180
64 gtcactgcgg ttccttcgct aacgtgaact gctgggtgca gacttgagag ctcggcgagg 240
65 cgaacgtgtc gacggatccg g                                     261
67 <210> SEQ ID NO: 4
68 <211> LENGTH: 120
69 <212> TYPE: DNA
70 <213> ORGANISM: Artificial Sequence
72 <220> FEATURE:
73 <223> OTHER INFORMATION: Synthetic oligonucleotide
75 <400> SEQUENCE: 4
76 gcgtcgacgc gatgggtttc gtgcttttct ctcagcttcc atctttcctt cttgtgtcta 60
77 ctcttcttct tttccttggt atctctcact cttgccgtgc tggagacgcg aattcacaca 120
80 <210> SEQ ID NO: 5
81 <211> LENGTH: 75
82 <212> TYPE: DNA
83 <213> ORGANISM: Artificial Sequence
85 <220> FEATURE:
86 <223> OTHER INFORMATION: Synthetic oligonucleotide
88 <400> SEQUENCE: 5
89 gcgtcgacgc gatgggtttc gtgcttttct ctcagcttcc atctttcctt cttgtgtcta 60
90 ctcttcttct tttcc                                     75
92 <210> SEQ ID NO: 6
93 <211> LENGTH: 72
94 <212> TYPE: DNA
95 <213> ORGANISM: Artificial Sequence
97 <220> FEATURE:
98 <223> OTHER INFORMATION: Synthetic oligonucleotide
100 <400> SEQUENCE: 6
101 tcgccggcac ggcaagagta agagatcaca aggaaaagaa gaagagtaga cacaagaagg 60
102 aaagatggaa gc                                     72
104 <210> SEQ ID NO: 7
105 <211> LENGTH: 80
106 <212> TYPE: DNA
107 <213> ORGANISM: Artificial Sequence
109 <220> FEATURE:
110 <223> OTHER INFORMATION: Synthetic oligonucleotide
112 <400> SEQUENCE: 7
113 gataagctta tcggttcctg cgtgtgggggt gctgtgaact acacttccga ttgcaacggg 60
114 gagtgcgaaga ggaggggtta                                     80
116 <210> SEQ ID NO: 8
117 <211> LENGTH: 109
118 <212> TYPE: DNA
119 <213> ORGANISM: Artificial Sequence
121 <220> FEATURE:
122 <223> OTHER INFORMATION: Synthetic oligonucleotide
124 <400> SEQUENCE: 8
125 ccgatccgt cgacacgttc gcctcgccga gctctcaagt ctgcaccag cagttcacgt 60
126 tagcgaagga accgcagtga ccaccttgt aacctctct cttgcactc 109
128 <210> SEQ ID NO: 9

```

## RAW SEQUENCE LISTING

DATE: 12/13/2002

PATENT APPLICATION: US/09/673,274B

TIME: 14:37:45

Input Set : A:\#416412 v1 - A33595-PCT-USA Revised Sequence Listing.txt

Output Set: N:\CRF4\12132002\I673274B.raw

```

129 <211> LENGTH: 85
130 <212> TYPE: DNA
131 <213> ORGANISM: Artificial Sequence
133 <220> FEATURE:
134 <223> OTHER INFORMATION: Synthetic oligonucleotide
136 <400> SEQUENCE: 9
137 agggcccccct aggggtttaa cggccagtc gccgaattc gagctcggta cccggggatc 60
138 ctctagagtc gacctgcagg catgc 85
140 <210> SEQ ID NO: 10
141 <211> LENGTH: 66
142 <212> TYPE: DNA
143 <213> ORGANISM: Artificial Sequence
145 <220> FEATURE:
146 <223> OTHER INFORMATION: Synthetic oligonucleotide
148 <400> SEQUENCE: 10
149 ccctgaacca ggctcgaggg cgcgccttaa taaaagctt gcatgcctgc aggtcgactc 60
150 tagagg 66
152 <210> SEQ ID NO: 11
153 <211> LENGTH: 93
154 <212> TYPE: DNA
155 <213> ORGANISM: Artificial Sequence
157 <220> FEATURE:
158 <223> OTHER INFORMATION: Synthetic oligonucleotide
160 <400> SEQUENCE: 11
161 ccggccagtc aggcacact taattaagtt taaacgcggc cccggcgcg ctaggtgtgt 60
162 gctcgagggc ccaacctcag tacctgggtc agg 93
164 <210> SEQ ID NO: 12
165 <211> LENGTH: 93
166 <212> TYPE: DNA
167 <213> ORGANISM: Artificial Sequence
169 <220> FEATURE:
170 <223> OTHER INFORMATION: Synthetic oligonucleotide
172 <400> SEQUENCE: 12
173 ccggcctgaa ccaggtactg aggttgggcc ctcgagcaca cacctaggcg cgccggggcc 60
174 gcgtttaaac ttaattaagt gtggcctgac tgg 93
176 <210> SEQ ID NO: 13
177 <211> LENGTH: 50
178 <212> TYPE: DNA
179 <213> ORGANISM: Artificial Sequence
181 <220> FEATURE:
182 <223> OTHER INFORMATION: Synthetic oligonucleotide
184 <400> SEQUENCE: 13
185 ggtctagaat ggcctgcacc aacaacgcca tgagggccct cttcctctc 50
187 <210> SEQ ID NO: 14
188 <211> LENGTH: 50
189 <212> TYPE: DNA
190 <213> ORGANISM: Artificial Sequence
192 <220> FEATURE:
193 <223> OTHER INFORMATION: Synthetic oligonucleotide

```

## RAW SEQUENCE LISTING

DATE: 12/13/2002

PATENT APPLICATION: US/09/673,274B

TIME: 14:37:45

Input Set : A:\#416412 v1 - A33595-PCT-USA Revised Sequence Listing.txt

Output Set: N:\CRF4\12132002\I673274B.raw

```

195 <400> SEQUENCE: 14
196 ccgaattcgg cgccgtgcac gatgcagaag agcacgagga ggaagagggc 50
198 <210> SEQ ID NO: 15
199 <211> LENGTH: 81
200 <212> TYPE: DNA
201 <213> ORGANISM: Artificial Sequence
203 <220> FEATURE:
204 <223> OTHER INFORMATION: Synthetic oligonucleotide
206 <400> SEQUENCE: 15
207 tctagaatgg cctgcaccaa caacgccatg agggccctct tcctcctcct gctcttctgc 60
208 atcgtgcacg gcgcgaatt c 81
210 <210> SEQ ID NO: 16
211 <211> LENGTH: 24
212 <212> TYPE: DNA
213 <213> ORGANISM: Artificial Sequence
215 <220> FEATURE:
216 <223> OTHER INFORMATION: Synthetic oligonucleotide
218 <400> SEQUENCE: 16
219 gataagctta tcggttcctg cgtg 24
221 <210> SEQ ID NO: 17
222 <211> LENGTH: 32
223 <212> TYPE: DNA
224 <213> ORGANISM: Artificial Sequence
226 <220> FEATURE:
227 <223> OTHER INFORMATION: Synthetic oligonucleotide
229 <400> SEQUENCE: 17
230 ggctcgagtc aagtctcgca ccagcagttc ac 32
232 <210> SEQ ID NO: 18
233 <211> LENGTH: 213
234 <212> TYPE: DNA
235 <213> ORGANISM: Artificial Sequence
237 <220> FEATURE:
238 <223> OTHER INFORMATION: Synthetic oligonucleotide
240 <400> SEQUENCE: 18
241 tctagaatgg cctgcaccaa caacgccatg agggccctct tcctcctcct gctcttctgc 60
242 atcgtgcacg gcgataagct tatcggttcc tgcgtgtggg gtgctgtgaa ctacacttcc 120
243 gattgcaacg gtgagtgcaa gaggaggggt tacaaggggtg gtcactgcgg ttccttcgct 180
244 aacgtgaact gctggtgcga gacttgactc gag 213
246 <210> SEQ ID NO: 19
247 <211> LENGTH: 838
248 <212> TYPE: DNA
249 <213> ORGANISM: Artificial Sequence
251 <220> FEATURE:
252 <223> OTHER INFORMATION: Synthetic oligonucleotide
W--> 254 <221> NAME/KEY: promoter
255 <222> LOCATION: (7)...(532)
W--> 257 <221> misc_structure
258 <222> LOCATION: (533)...(568)
W--> 260 <221> terminator

```

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/673,274B

DATE: 12/13/2002

TIME: 14:37:45

Input Set : A:\#416412 v1 - A33595-PCT-USA Revised Sequence Listing.txt  
 Output Set: N:\CRF4\12132002\I673274B.raw

261 &lt;222&gt; LOCATION: (569)...(832)

W--&gt; 263 &lt;400&gt; 19

```

264 aagcttccag aaggtaatta tccaagatgt agcatcaaga atccaatggt tacgggaaaa 60
265 actatggaag tattatgtga gctcagcaag aagcagatca atatgaggca catatgcaac 120
266 ctatgttcaa aaatgaagaa tgtacagata caagatccta tactgccaga atacgaagaa 180
267 gaatacgtag aaattgaaaa agaagaacca ggcgaagaaa agaattctga agacgtaagc 240
268 actgacgaca acaatgaaaa gaagaagata aggtcgggtga ttgtgaaaga gacatagagg 300
269 acacatgtaa ggtggaaaat gtaagggcgg aaagtaacct tatcaciaag gaatcttata 360
270 cccactact taccctttta tttttttccg tgtcattttt gcccttgagt tttcctatat 420
271 aaggaaccaa gttcggcatt tgtgaaaaca agaaaaaatt tgggtgaagc ttttttcttt 480
272 gaagtactga ggatacaact tcagagaaat ttgtaagttt gtagatctcg attctagaag 540
273 gcctgaattc gagctcggta ccggatccaa ttcccgatcg ttcaaacatt tggcaataaa 600
274 gtttcttaag attgaatcct gttgccgggtc ttgcgatgat tatcatataa tttctgttga 660
275 attacgttaa gcatgtaata attaacatgt aatgcatgac gttattttatg agatgggttt 720
276 ttatgattag agtcccgcga ttatacatat aatacgcat agaaaacaaa atatacgcg 780
277 caaactagga taaattatcg cgcgcgggtgt catctatggt actagatcgg ggatcgat 838

```

279 &lt;210&gt; SEQ ID NO: 20

280 &lt;211&gt; LENGTH: 1036

281 &lt;212&gt; TYPE: DNA

282 &lt;213&gt; ORGANISM: Artificial Sequence

284 &lt;220&gt; FEATURE:

285 &lt;223&gt; OTHER INFORMATION: Synthetic oligonucleotide

W--&gt; 287 &lt;221&gt; NAME/KEY: promoter

288 &lt;222&gt; LOCATION: (7)...(532)

W--&gt; 290 &lt;221&gt; CDS

291 &lt;222&gt; LOCATION: (539)...(736)

W--&gt; 293 &lt;221&gt; terminator

294 &lt;222&gt; LOCATION: (767)...(1030)

W--&gt; 296 &lt;400&gt; 20

```

297 aagcttccag aaggtaatta tccaagatgt agcatcaaga atccaatggt tacgggaaaa 60
298 actatggaag tattatgtga gctcagcaag aagcagatca atatgaggca catatgcaac 120
299 ctatgttcaa aaatgaagaa tgtacagata caagatccta tactgccaga atacgaagaa 180
300 gaatacgtag aaattgaaaa agaagaacca ggcgaagaaa agaattctga agacgtaagc 240
301 actgacgaca acaatgaaaa gaagaagata aggtcgggtga ttgtgaaaga gacatagagg 300
302 acacatgtaa ggtggaaaat gtaagggcgg aaagtaacct tatcaciaag gaatcttata 360
303 cccactact taccctttta tttttttccg tgtcattttt gcccttgagt tttcctatat 420
304 aaggaaccaa gttcggcatt tgtgaaaaca agaaaaaatt tgggtgaagc ttttttcttt 480
305 gaagtactga ggatacaact tcagagaaat ttgtaagttt gtagatctcg attctaga 538
306 atg gcc tgc acc aac aac gcc atg agg gcc ctc ttc ctc ctc gtg ctc 586
307 Met Ala Cys Thr Asn Asn Ala Met Arg Ala Leu Phe Leu Leu Val Leu
308 1 5 10 15
310 ttc tgc atc gtg cac ggc gat aag ctt atc ggt tcc tgc gtg tgg ggt 634
311 Phe Cys Ile Val His Gly Asp Lys Leu Ile Gly Ser Cys Val Trp Gly
312 20 25 30
314 gct gtg aac tac act tcc gat tgc aac ggt gag tgc aag agg agg ggt 682
315 Ala Val Asn Tyr Thr Ser Asp Cys Asn Gly Glu Cys Lys Arg Arg Gly
316 35 40 45
318 tac aag ggt ggt cac tgc ggt tcc ttc gct aac gtg aac tgc tgg tgc 730
319 Tyr Lys Gly Gly His Cys Gly Ser Phe Ala Asn Val Asn Cys Trp Cys

```

RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/09/673,274B

DATE: 12/13/2002  
TIME: 14:37:46

Input Set : A:\#416412 v1 - A33595-PCT-USA Revised Sequence Listing.txt  
Output Set: N:\CRF4\12132002\I673274B.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:39; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,12,13,14,15,16,17,18,19,20,21,23,24  
Seq#:39; Xaa Pos. 25,27,28,29,30,31,32,33,34,35,37,38,39,40,41,42,43,45,47  
Seq#:39; Xaa Pos. 48,49,50,51  
Seq#:40; Xaa Pos. 2,3,4,5,6,7  
Seq#:42; Xaa Pos. 1,2,3,4,5,6,7,8,9,11  
Seq#:43; Xaa Pos. 2,3,4,5,6,7,8,9  
Seq#:44; Xaa Pos. 2,3,4,5,6  
Seq#:45; Xaa Pos. 2,3,4,5